



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/443,692	11/19/1999	TAKESHI ANDO	13191	7589

23389 7590 08/24/2004

SCULLY SCOTT MURPHY & PRESSER, PC
400 GARDEN CITY PLAZA
GARDEN CITY, NY 11530

EXAMINER

LEE, TIMOTHY L

ART UNIT	PAPER NUMBER
----------	--------------

2662

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/443,692

Applicant(s)

ANDO, TAKESHI

Examiner

Timothy Lee

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,5,8 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3,5,8 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 2, 3, 5, 8, and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Tiedemann, Jr. et al. (US 5,914,950), hereinafter referred to as Tiedemann.

3. Regarding claims 2 and 10, Tiedemann discloses a communication system capable of variable rate transmission. Remote station 6 from Fig. 1 initiates high speed data transmission on the reverse link by requesting permission from channel scheduler 12 (receiving a transmission demand from each of a plurality of mobile station at a base station). See col. 6, lines 40-42. As shown in Fig. 2, the channel scheduler 12 connects to all selector elements within the base station controller 10. See col. 7, lines 27-39. The channel scheduler is also able to schedule the information so that data can travel at that particular rate a predetermined number of frames later (determining a maximum transmission rate for a next schedule transmission time slot...). See col. 9, lines 47-51. The maximum transmission rate is found based on a number of factors. One of the factors includes the frame error rate (based directly on... a transmission error rate). See col. 18, lines 10-30. For example, the channel scheduler can assign lower transmission

Art Unit: 2662

rates to remote stations if the FER is above a predetermined threshold. See col. 16, lines 33-43. Tiedemann also discloses the use of CRC bits for detection of frame error (error rate determined via a CRC for each mobile station). See col. 27, line 62-col. 28, line 6.

Tiedemann discloses that the data transmission rate is also affected by the channel condition (taking account of radio wave propagation condition). See col. 19, lines 17-19, and col. 20, lines 19-26. Tiedemann discloses that the data queue size is also taken into consideration in assigning the maximum transmission rate. It follows logically that a bigger data size will relate to a bigger queue size (taking account... a data size associated with each said transmission demand). See at least col. 21, lines 48-67. Priority order can also be established after taking various factors into account. See col. 32, lines 13-16.

Again, the amount of data to be transmitted is a factor in the discussion involving priority assignment (determining a priority order...based on the data size). See col. 32, lines 48-65. Tiedemann also discloses that priority can be assigned based on the frame error rate (determining priority order...based on...the transmission error rate). See col. 33, line 58-col. 34, line 13. Channel conditions can also play a role in priority, where a remote station can be temporarily be placed on hold until channel conditions improve, so it would have a very low priority of transmission (determining a priority order...based on the radio wave propagation condition). See col. 33, lines 23-26. After processing the collected information, channel scheduler 12 assigns the maximum scheduled transmission rate that can be used by each remote station 6 for high speed data transmission over the reverse link (notifying each said mobile station of said maximum transmission rate determined at said base station).

Art Unit: 2662

4. Regarding claim 3, the channel scheduler can wait until the next scheduling period and assigns a new rate based on the newly collected information. In this manner, the maximum rate can be variable (variably changing a transmission rate according to the maximum rate). See Fig. 7, and col. 9, lines 24-54.

5. Regarding claim 5, as mentioned previously, the system can use the FER information to determine the condition of a transmission path. For example, if there is a repeated frame error, then this can indicate that the reverse link is impaired (a transmission condition detecting means...detecting its error rate). As mentioned previously, the mobile stations can demand up to a maximum rate, or less depending on what the mobile station requires. The system uses collected information to determine the rate needed by each channel (transmission rate detecting means), and it assigns a maximum rate based on this information (a maximum rate control information determining means). See Fig. 7, and col. 9, lines 24-54. The channel scheduler is responsible for sending the maximum rate information (notifying said mobile station of said maximum rate). See Fig. 7, and col. 9, lines 47-49.

6. Regarding claim 8, at a base station 4, the reverse link signal is received by antenna 44 and provided to RF unit 42. RF unit 42 filters, amplifies, downconverts, and quantizes the reverse link signal and provides the digitized signal to channel element 40. Channel element 40 demodulates the digitized baseband signal, the inverse of the signal processing functions done at remote station 6 (a demodulation device). See col. 7, lines 9-26. The scheduling system disclosed in Tiedemann can be applied to any communication system capable of variable rate communication—high speed data transmission occurs over a single variable rate channel (variable rate communication

Art Unit: 2662

path). Based on collected information and system goals, the channel scheduler assigns the maximum transmission rate—some of this collected data and system goals can include channel condition and a priority list of required performance (determining maximum rate by taking account of radio wave propagation condition; a maximum rate control). See col. 19, lines 14-29, and col. 18, lines 24-30. The system uses collected information to determine the rate needed by each channel (transmission rate detecting means). As mentioned previously, the FER can be used when deciding on the transmission rate (detecting its error ratio).

Response to Arguments

7. Applicant's arguments filed June 4, 2004 have been fully considered but they are not persuasive.

8. In response to Applicant's argument that Tiedemann does not disclose scheduling its rate on the reverse link based directly on the transmission error rate, the Examiner respectfully disagrees. Applicant focuses on equations 6 and 7 found in col. 18 of Tiedemann to argue that the maximum transmission rate is not based directly on frame error rate (FER). Specifically, because the equations show that E_b , not FER, is used in the equation to find the maximum rate, Applicant argues that this is not a direct relationship. The Examiner, however, still contends that there is a direct relationship between the maximum rate and the FER. If there is a change in FER, this change will directly affect the maximum rate as calculated in equation 7; this is a necessary consequence of a change in FER. The breaking up of the calculation of the maximum rate into steps by Tiedemann does not ⁱⁿ any way demonstrate that there is no direct

Art Unit: 2662

relationship between FER and the maximum transmission rate. Because the maximum rate is directly based on the FER, the Examiner believes that the rejection remains proper.

9. In response to Applicant's argument that Tiedemann does not disclose determining the maximum rate for a next scheduled transmission time slot, the Examiner respectfully disagrees. Applicant cites col. 16, lines 33-39 of Tiedemann, which states that the cell "can temporarily assign lower transmission rates to remote stations... without having to wait for the next scheduling," as proof that Tiedemann only discloses scheduling on a temporary basis as opposed to a basis where maximum transmission rates are scheduled for a next time slot. This quote, however, only represents a small portion of the scheduling capabilities disclosed by Tiedemann. Read in light of the entire disclosure, this quoted section is supposed to highlight an extra capability that the invention possesses, in addition to its regular scheduling capabilities. For example, Tiedemann discloses that after the maximum transmission rate has been calculated, the data can be sent at that rate a "predetermined number of frames later." See col. 9, lines 47-54. Additionally, Tiedemann discloses that the rate scheduling can be "performed continuously, periodically, or in a staggered fashion." See col. 12, lines 56-58. This indicates that the quoted section from above only considers one facet of the whole invention. Because Tiedemann discloses scheduling for a next transmission slot, the Examiner believes the rejection remains proper.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 2662

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy Lee whose telephone number is (703)305-7349. The examiner can normally be reached on M-F, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703)305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2662

TLL
Timothy Lee
August 9, 2004



HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600